APPENDIX

Changes to Abstract:

The following is a marked-up version of the amended Abstract.

~~The invention relates to a~~A rotary electric machine ~~comprising~~ including a flux-concentrating rotor with permanent magnets disposed between pole pieces, and a stator with ~~windings on~~ teeth having a free end deprived of pole swellings and a concentrated winding. The pole pieces and the magnets are configured so as to minimize the difference L_d-L_q where L_d is inductance on a forward axis and L_q is inductance on a quadrature axis.

Changes to Specification:

Page 1, between lines 2 and 3, a new heading is added.

Page 1, line 6 is deleted.

Page 17, line 22- page 23, line 3:

In general, the angle ii depends on the nature of the materials used for making the shaft 210 and the pole pieces 230, and it can be determined by computation using finite elements. The shape of the section of each spline 220 is substantially complementary to that of the cutout ~~252~~250, excepting the presence of a chamfer 221a at the edge of the radially outer face 221 of the spline 220. Each side 222 of the spline thus has a rounded portion 222a having the same radius of curvature R_a as the rounded portion 252a, a rectilinear portion 222b parallel to the portion 252b when the pole piece 230 is in place on the shaft 210, and a rounded portion 222c having the same radius of curvature R_c as the portion 252c. The radially inner edges 233 of the pole piece 230 situated on either side of the slot 250 are set back from the regions 213 of the shaft 210 situated between the splines 220, as can be seen in Figures 17 and 18, in particular. A gap 260 is thus left between two adjacent splines 220, the pole pieces 230 engaged on the splines, and the shaft 210.

Page 18, line 28 - page 19, line 2:

The radially outer side 235 of a pole piece 230 is of circular cross-section, and has a ~~of~~ radius of curvature that is smaller than the maximum radius of the rotor such that each pole piece 230 presents an outside face ~~235~~ which forms a slightly outwardly convex lobe, as can be seen in Figure 18. The bulging shape of the pole pieces 230 makes it possible to reduce torque ripple and also to establish a flow of cooling air. In the example described, the shape of the ~~lobe~~ outer side 235 and the ratio of the radial dimension of the magnets over their width is selected so as to have $L_q = L_d$ so that the motor turns without the reluctance effect.

Changes to Claims:

Claims 36-42 are added.

The following is a marked-up version of the amended claims:

1. (Amended) A rotary electric machine ~~having~~ comprising:

a flux-concentrating rotor comprising permanent magnets disposed between pole pieces; and

a stator ~~with windings on teeth~~comprising teeth having a free end deprived of pole swellings and a concentrated winding.

2. (Amended) A machine according to claim 1, wherein the ~~shape of the~~ pole pieces and the ~~shape of the~~ magnets are ~~chosen in such a manner~~configured so as to minimize the difference L_d - L_q where L_d is inductance on ~~the~~ a forward axis and L_q is inductance on ~~the~~ a quadrature axis.

3. (Amended) A machine according to claim 1, wherein the teeth are of non-constant width, increasing in width with increasing distance from the rotor starting from a ~~certain~~ determined distance from their free ends.

4. (Amended) A machine according to claim 1, wherein the magnets are wedge-shaped when observed along ~~the~~ an axis of rotation of the rotor, of width that tapers going away from the axis of rotation of the rotor.

6. (Amended) A machine according to claim 1, wherein the pole pieces have cutouts and are engaged via said cutouts on splines on ~~the~~ a shaft of the rotor.

7. (Amended) A machine according to claim 6, wherein the splines and the central portion of the shaft are made of a non-magnetic material~~, in particular of aluminum~~.

8. (Amended) A machine according to claim 5, wherein the pole pieces have radially inner edges and gaps are left between ~~the~~ said radially inner edges ~~of the pole pieces~~ and the shaft.

9. (Amended) A machine according to claim 5, wherein ~~the cross-section of~~ each spline presents a cross section having a profile having opposite sides with inclined portions at an angle ~~ii~~ to a radius passing through ~~the~~ a middle of the spline~~, said angle being selected in such a manner as to make it possible for said splines to be made out of a material having weaker shear strength than the material used for making the pole pieces~~.

10. (Amended) A machine according to claim 9, wherein the angle ~~ii~~ is about 70°.

13. (Amended) A machine according to claim 1, wherein each pole piece has, on ~~its~~ a side facing towards the stator, a face that ~~bulges being~~is non circular around an axis of rotation of the rotor and convex towards the stator.

14. (Amended) A machine according to claim 1, wherein the magnets have edges that are adjacent to the stator and the rotor has at least one, at one axial end, a cheek-plate of non-magnetic material, with ~~the~~ a periphery ~~thereof~~ of the check-plate being set back from ~~the~~ said edges ~~of the magnets which are adjacent to the stator~~.

15. (Amended) A machine according to claim 1, the stator having n_{teeth} teeth, the rotor having n_{pairs} pairs of poles, and the ~~electricity being AC~~current having n_{phases} phases, wherein the number of teeth n_{teeth} ~~is selected in such a manner as to satisfy the following relationship~~satisfies $n_{teeth} = n_{pairs} * n_{phases}$.

16. (Amended) A machine according to claim 1, wherein the rotor is ~~arranged~~ configured to rotate at a speed lying in the range 1000 rpm to 10,000 rpm.

17. (Amended) A machine according to claim 1, wherein ~~its~~ the machine has an outside dimension in the radial direction that lies in the range 50 mm to 1 m.

18. (Amended) A machine according to claim 1, wherein the stator has individual coils each removably disposed on one tooth.

19. (Amended) A machine according to claim 1, wherein the stator has at least one individual coil comprising a plurality of superposed turns of a substantially flat bundle of insulated wires wound around a winding axis ~~in such a manner as to form a plurality of superposed turns~~, the cross-section of the bundle ~~in the superposed turns~~ having a long dimension that extends substantially perpendicularly to the winding axis ~~of the coil~~.

21. (Amended) A machine according to claim 19, wherein ~~the~~ an inside section of the coil perpendicular to the winding axis is substantially rectangular.

22. (Amended) A machine according to claim 19, wherein ~~the~~ an inside section of the coil perpendicular to the winding axis is larger on one side than on the other, ~~thereby enabling it to be mounted on~~and the stator comprises a tooth presenting a complementary profile ~~with a certain amount of clamping~~.

23. (Amended) A machine according to claim 19, wherein the wires are ~~stripped~~ curved to form hooks at the electrical connection ends of the coil ~~and curved to form hooks~~.

25. (Amended) A machine according to claim 19, wherein the coil has, perpendicular to the winding axis, an inside section ~~of long side~~ longer than ~~the~~ an axial dimension of the tooth on which the coil is engaged ~~so as to leave a gap which is sufficient to receive~~ , and a detector suitable for delivering a signal representative of rotation of the rotor being engaged in a gap formed between an inside face of the coil and a face of the tooth.

26. (Amended) A machine according to claim 1, having at least one detector comprising a magnetic field sensor mounted on the stator in such a manner as to detect the magnetic field of the magnets of the rotor from a location that overlaps a peripheral region of the rotor when the machine is observed on ~~the~~ an axis of rotation of the rotor.

28. (Amended) A machine according to claim 26, wherein the at least one detector ~~the detector(s)~~ ~~is/are~~ fixed to the ~~magnetic circuit of the~~ stator so as to extend along ~~the~~ a radial axis of a tooth.

29. (Amended) A machine according to claim 26, wherein the ~~or each detector includes not only a magnetic field sensor, but also~~ at least one detector further comprises a temperature sensor.

30. (Amended) A machine according to claim 1, wherein the rotor has at least one cheek-plate of non-magnetic material, with ~~the~~ a radially outer edge of said cheek-plate being set back from ~~the~~ a radially outer edge of the magnets and the pole pieces, so as to leave an annular region in which ~~the~~ a magnetic field of the magnets~~(s)~~ can be read by ~~one or more~~at least one detectors.

31. (Amended) A machine according to claim 1, having individual coils with connection ends formed by respective flat bundles of ~~stripped~~ wires curved to form respective hook shapes, said connection ends being soldered to locally stripped portions of sheathed electric cables.

32. (Amended) A machine according to claim 1, wherein the ~~magnetic circuit of~~ the stator ~~is made up of~~ comprises an assembly of sectors defining air-gaps intersecting the teeth at half-width.

33. (Amended) A machine according to claim 32, wherein the sectors have co-operating portions in relief on ~~their~~ docking sides.

34. (Amended) A machine according to claim 1, wherein the stator comprises a magnetic circuit ~~of the stator is~~ inserted by force into a cylindrical case.